

## Efficient, Long-Life Biocidal Condenser, Phase II

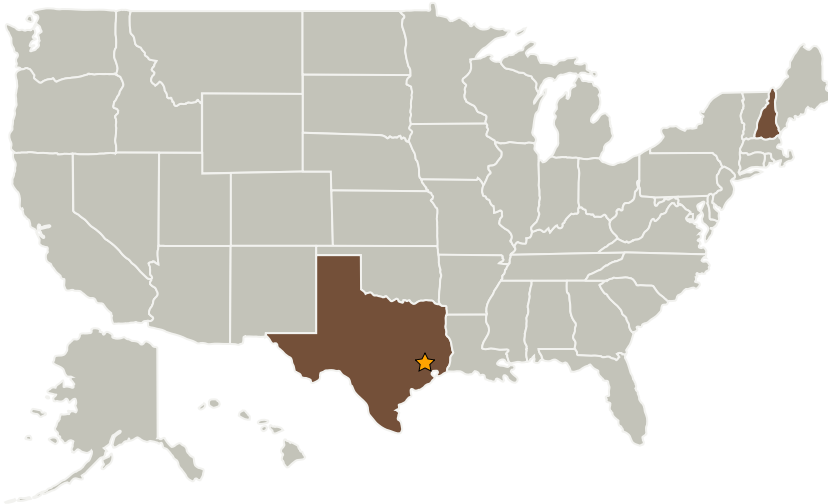
Completed Technology Project (2008 - 2010)



## Project Introduction

Environmental control systems for manned lunar and planetary bases will require condensing heat exchangers to control humidity in manned modules. Condensing surfaces must be hydrophilic to ensure efficient operation and biocidal to prevent growth of microbes in the moist, condensing environment. The coatings must be extremely stable and adhere to the condensing surface for many years. We propose an innovative coating that has proven to be highly biocidal, hydrophilic, and stable. In Phase I we have proven feasibility by developing methods to apply the coating to prototypical materials and demonstrating hydrophilic and biocidal performance under prototypical conditions. In Phase II we propose to optimize the coating and demonstrate the performance of prototypical condenser surfaces designed to meet requirements for future lunar and planetary bases.

## Primary U.S. Work Locations and Key Partners



Organizations Performing Work	Role	Type	Location
★ Johnson Space Center(JSC)	Lead Organization	NASA Center	Houston, Texas
Creare LLC	Supporting Organization	Industry	Hanover, New Hampshire



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## Organizational Responsibility

**Responsible Mission Directorate:**

Space Technology Mission Directorate (STMD)

**Lead Center / Facility:**

Johnson Space Center (JSC)

**Responsible Program:**

Small Business Innovation Research/Small Business Tech Transfer

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### Primary U.S. Work Locations

New Hampshire

Texas

### Project Transitions



**February 2008:** Project Start



**February 2010:** Closed out

### Project Management

**Program Director:**

Jason L Kessler

**Program Manager:**

Carlos Torrez

### Technology Areas

**Primary:**

- TX12 Materials, Structures, Mechanical Systems, and Manufacturing
  - └ TX12.1 Materials
    - └ TX12.1.5 Coatings